PROGRESS, STATUS AND MANAGEMENT REPORT #13
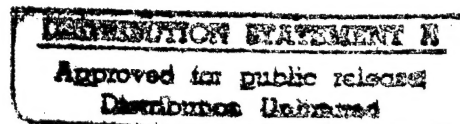
July - August 1993

Standards Development for
Distributed Interactive Simulation

Contract Number N61339-91-C-0091

CDRL A001

(Unclassified)

Submitted to: STRICOM

Submitted by: Institute for Simulation and Training
University of Central Florida
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Prepared by: _Margaret Loper_
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19970318 072

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1.0 INTRODUCTION

This Bi-Monthly Progress, Status and Management Report, CDRL A001, is submitted as required by STRICOM Contract N61339-91-C-0091.

1.1 General Information

The 8th Quarterly Review for the project was held on July 22, 1993.

The SIGINT/EW ECP was awarded on August 18, 1993.

2.0 PROJECT PROGRESS

Progress as related to the work plan milestone chart is illustrated in Attachment A. Progress on each task is described in the paragraphs that follow.

2.1 Research and Analysis to Accelerate the Standard

2.1.1 <u>Communication Architecture</u>

2.1.1.1 Status

During this reporting period, Russ Nelson made contact with Chris Bouwens to familiarize himself with the CAS working group and the CADIS standard, rationale, and guidance documents. Russ was responsible for arranging their interim teleconference and for collecting the inputs for the CADIS documents so that they could be mailed out prior to the workshop.

2.1.1.2 Plans

IST will attend the 9th Workshop and participate in the CAS working group meeting. If any research and analysis issues are identified as action items, we will accept the responsibility of conducting the analysis and provide feedback to CAS at their interim meeting.

2.1.2 <u>Performance Measures</u>

2.1.2.1 Status

Carol Paris made contact with Bruce McDonald, John Eisenhardt, and Dale Pace to familiarize herself with FECFR and the standards being progressed. She was

responsible collecting inputs for the ECFR standard. She also coordinated the mailing for the VV&A subgroup.

2.1.2.2 Plans

IST will attend the 9th Workshop and participate in the FECFR working group meeting. If any research and analysis issues are identified as action items, we will accept the responsibility of conducting the analysis and provide feedback to ECFR at their interim meeting.

2.1.3 Environmental Correlation

2.1.3.1 Status

There was no activity during this reporting period.

2.1.3.2 Plans

IST is still looking for a technical representative for this group. We expect to fill this role during the next reporting period. We will try to leverage this position off of the newly awarded DIS Visual Testbed.

2.1.4 Protocol Data Units

2.1.4.1 Status

During this reporting period, John Rankin made contact with Joe Brann, Sam Knight, Richard Schaffer, Laura Malter, Dave Powell, and Mike Robkin to familiarize himself with ITMC and its associated subgroups. John was responsible collecting inputs for proposed changed pages for the PDU standard.

The Enumeration document which accompanies the PDU standard was handed over to Dr. Chien Huo at JIEO for configuration control/configuration management during the last reporting period. Due to JIEO's lack of knowledge about the document, IST has had numerous telephone conversations with Dr. Huo and his subcontractor Dan Beal of Logicon to explain the information contained in the Appendix.

IST has been supporting the development of Entity and Munition Type tables for the 1993 IITSEC Interoperability Demonstration. This task has required us to analyze the Capability Statements submitted to the DIS Testbed to identify the types of

entities and munitions participants will bring to the demo. Because some entities will be visualized in the scenario and some entities will not be visualized, we have had to work closely with the DIS Testbed for testing and scenario development.

2.1.4.2 Plans

IST will attend the 9th Workshop and participate in the ITMC working group meeting. We will take minutes at opening and closing sessions. If any research and analysis issues are identified as action items, we will accept the responsibility of conducting the analysis and provide feedback to ITMC subgroups at their interim meeting.

IST will continue to support JIEO as needed in answering questions about the Enumeration document.

IST will continue to work with the DIS Testbed to develop the Entity and Munition Type Tables.

2.2 Development of Correlation Measures

2.2.1 LOS Intervisibility

2.2.1.1 Status

There was no activity during the last reporting period.

2.2.1.2 Plans

There is no activity planned for the next reporting period.

2.2.2 Target/Background Contrast Ratio

2.2.2.1 Status

IST has located a Silicon Graphics Crimson computer for the Target/Background Contrast Ratio experiment. We will be borrowing the computer from Loral and are coordinating the loan with Rich Moore. The computer will be available after August 9th. Pat Moskal will be in charge of the experiment and has been in contact with Rich to schedule time for the experiment. Pat will work with Carol Paris to complete the work.

2.2.2.2 Plans

Pat and Carol will begin screening subjects based on their acuity and color discrimination. When the pre-screening is completed, they will begin the experiment. Once the experiment has started, it should take approximately 2 weeks to complete.

2.3 Development of Operator Performance Measures

2.3.1 Literature Search

This subtask has been completed.

2.3.2 Proof of Principle Dead Reckoning

2.3.2.1 Status

There was no activity during this reporting period.

2.3.2.2 Plans

IST will continue to monitor the progress of the dead reckoning work being funded by NTSC/DMSO. When this work is completed, we will continue with the development of our dead reckoning tool.

2.4 Development of Standards Documents and Development of a Military Standard

2.4.1 Facilitating the Standards Process

2.4.1.1 Interim Meetings

IST hosted a teleconference for the working group and subgroup chairs on August 9. At this meeting issues pertaining to workshop logistics were discussed. Joint meetings were encouraged as well as a discussion of position papers and meeting space. It was also decided that changes received to version 2.0.3 will be sent out prior to the workshop as suggested changes rather than changed pages. The minutes are contained in Attachment D.

2.4.1.1.1 Communication Architecture

IST facilitated and participated in a teleconference for the Communication Architecture and Security working group on August 3. CAS had tried several times to conduct their interim meeting via video teleconference; however, they were

bumped twice at the last minute. The agenda and minutes from this teleconference are included in Attachment D.

2.4.1.1.2 Performance Measures

The ECFR document was edited for final draft during this reporting period. The revisions were forwarded to IST following the June FECFR meeting. This version of the ECFR standard is expected to be forwarded to the Steering Committee for approval for IEEE balloting.

2.4.1.1.3 Environmental Correlation

There was no activity during this reporting period.

2.4.1.1.4 Protocol Data Units

IST supported a teleconference and an interim meeting for the Interface Time/Mission Critical working group during this reporting period. The Radio subgroup held a teleconference on July 22. The meeting was to better define the Radio PDUs being used in the IITSEC demonstration. The Emissions subgroup met at IST July 20-22. This meeting was also used to better define the use of Emissions in the IITSEC demonstration.

IST complied the various subgroup inputs regarding proposed changes to the PDU standard. The appropriate sections of 2.0.3 were drafted and the proposed changes were distributed to ITMC members for review at the September workshop.

2.4.1.2 Workshops

We created and mailed out a detailed booklet for the second announcement of the 9th workshop.

The plenary speakers and the keynote speaker for the 9th workshop have been selected. The schedule for the special interest meetings and the working group sessions has been set, along with the room assignments.

Pre-workshop packages were mailed out for the CAS, FECFR, and the ITMC working groups. These packages included standards documents and/or various papers the working group chairs wanted their group members to review prior to the workshop.

Materials for the registration packet (including the program) have been created and sent to the print shop; we are preparing packets for 1000 registrants, based on last year's number of attendees. We are also reproducing various standards, rationale documents, and position papers for use during the workshop.

2.4.1.3 DIS Community Support

We mailed out a survey to all working group members listed on working group mailing lists. The survey asked the working group members what mailing lists they wanted to be considered active for. Only those who responded to the survey will receive future working group mailings. Those who did not respond will be removed from the working group mailing lists and placed on a general workshop list to receive workshop announcements only.

IST personnel responded to more than 300 phone calls during this reporting period. The callers had various questions concerning DIS documents and the 9th workshop.

2.4.1.4 DIS Interoperability Demo

Project personnel attended the July 28 and August 24 planning meetings of the IITSEC demonstration. In support of this year's demo, we have been working the DIS testbed to revise the entity type sheet, munition type sheet, and hit-kill matrix. The revision of these tables required an analysis of prospective participants and the entities and weapons they plan to use. The interoperability of demo simulators depends on all participants adhering to these tables.

2.4.1.5 Steering Committee Meetings

The Steering Committee held four teleconferences during this reporting period. On July 22 and August 23 the Steering Committee discussed issues pertaining to the upcoming workshop, a steering committee charter, and progression of IEEE documents. The minutes from these teleconferences are included in Attachment B.

Two additional teleconferences were held by a subset of the Steering Committee working on an architecture description document for DIS. The Architecture Tiger Team met via teleconference on August 12 and August 31. During these meetings, issues pertaining to document structure and content were discussed. We also received liaison reports from DMSO's architecture group. It is anticipated that an outline for the document will be created at the September workshop.

IST worked with Neale Cosby at IDA to secure the keynote speaker for the September workshop. Dr. Anita Jones has been tentatively scheduled.

2.4.2 Producing Standards and Rationale Documents

2.4.2.1 Status

Several documents were delivered during this reporting period:

The Eighth Workshop on Standards for the Interoperability of Defense Simulations Summary Report
IST-CR-93-10

Version 2.0.3 Standard for Information Technology--Protocols for Distributed Interactive Simulation Applications
IST-CR-93-15

Changed pages insert for IST-CR-93-02 (Enumeration doc)
IST-CR-93-19

Changed pages insert for IST-CR-93-07 (CAS Standard)
IST-CR-93-13

Changed pages insert for IST-CR-93-08 (CAS Rationale)
IST-CR-93-14

Exercise Control Performance Measures and Feedback Requirements for DIS
IST-CR-93-18

2.4.2.2 Plans

It was decided during the Working Group Chair Teleconference that a Version 2.0.4 would not be released prior to the workshop. Those changes that have been received for the PDU standard were sent out as suggested changes, and will be decided upon at the workshop.

2.4.3 User Guidance Documents

2.4.3.1 Status

These documents were passed out in response to request for overviews on DIS.

2.4.3.2 Plans

We will continue to pass these documents out to answer general questions and provide an overview of the standards process.

2.4.4 Coordination With Other Standard Bodies

2.4.4.1 IEEE Standards Progress

IST contacted with Ann O'Neill at IEEE about future progression of DIS Standards. We were informed by Ann about the creation of the Standards Committee on Interactive Simulation (SCIS). The creation of SCIS will make DIS a sponsor of its own standards within the Computer Society. With 1278-1993, DIS was a working group within the Software Engineering Standards Committee. This arrangement put one additional level of approval between DIS and IEEE. With the creation of SCIS, DIS will be elevated to a peer committee with Software Engineering. In response to the conversation, Ann mailed example operating policies and procedures on which to base our formal operating procedures.

IST will work with the appropriate working group chairs to complete the Project Authorization Requests (PARs) for starting new work items within IEEE. The standards expected to be progressed are the PDU standard version 2.0.4, communication architecture, and ECFR. IST also plans to act as chair of SCIS for the purpose of progressing the standards.

3.0 OTHER PROJECT ACTIVITIES

3.1 Briefings on DIS

On July 29, IST met with Randy Stevens of the FAA's National Simulation Capability (NSC). Randy, who has attended past workshops, is very interested in using DIS in the FAA's NSC. In fact Randy wants to fund a parallel FAA PDU subgroup, to start at the March workshop, to start developing the specific PDUs required by NSC. IST told Randy that we would broach the subject of funding a parallel effort with Karen Williams at STRICOM and we would try to set up a meeting to discuss this issue during the September workshop.

3.2 ADST Bulletin Board and DIS Information

A soft copy of the booklet announcing the 9th workshop was given to Kevin Mullally of Loral to be placed on the ADST bulletin board system.

3.3 SIGINT/Electronic Warfare ECP

3.3.1 Status

Doug Wood participated in the DIS Emission Subgroup meeting held on the 20-22 of July at IST. He also attended the I/ITSEC Interoperability Demonstration preliminary meetings for Emission/Acoustic/Radio and the Interoperability meetings. The minutes for the preliminary meetings were given to Jim Williams for distribution to the attenders of the I/ITSEC Interoperability meeting. We have been fielding calls concerning collection of emission data to support the use of the Emission PDU in the I/ITSEC DEMO. We have also collected data from participants for generating an ad hoc Emission Data Base.

The funding for ECP2 was awarded on the 18th of this month.

A draft task and deliverable list for the EWA subcontract statement of work (SOW) has been completed. It was reviewed internally before being sent to EWA. We have had several discussions with Dave Daniel of EWA concerning the SOW and EWA's proposal for a subcontract to support ECP2. Based on the discussions, the deliverable descriptions were modified.

We requested a meeting to discuss the coordination of effort in integrating EW-CGF with the other versions of the CGF Testbed. This meeting included Mikel Petty, Scott Smith, Jon Watkins, Clark Karr, and Doug Wood. The CGF Testbed is currently controlled by the SAFDI project which has a deliverable in September. In order to make progress while waiting for the CGF Testbed to stabilize, some of the EW capabilities will be integrated first into the DIS Testbed. The DIS Testbed will then be integrated into the CGF Testbed. Selected EW enhancements will be integrated into the DIS enhanced CGF Testbed to create a new baseline for continued work.

3.3.2 Plans

The workplan for ECP2 is due September 8.

We will continue to support the I/ITSEC interoperability demonstration in matters relating to Emissions.

Continue to work with DSR to get the EWA subcontract awarded as quickly as possible.

Support the integration of EW capabilities into the DIS CGF Testbed.

4.0 CONTRACT EXPENDITURES

Contract expenditures are included in Attachment C.

5.0 TRIPS INCURRED

Danette Haworth attended a management seminar July 28 in Orlando. (See Attachment D for details.)

ATTACHMENT A - MILESTONE CHART

DELIVERABLES
FOR STANDARDS DEVELOPMENT WORK

Legend:
- △ START
- ▽ STOP
- ▲ STARTED
- ▼ STOPPED

MAC

TASKS

Timeline columns: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36

- Workplan
- Bi-Monthly Status Reports
- Quarterly Review Minutes *
- Technical Reports
- LOS Intervisibility
- Dead Reckoning
- Image Correlation

Year 2

- Standards — FDV 1.0, DV 2.0, FDV 2.0, DV 3.0, FDV 3.0
- PDU — DV 2.0
- Comm. Architecture — DV 1.0, FDV 1.0, DV 2.0, FDV 2.0
- Perf. Measures
- Environment Correlation
- Guidance Documents
- Standards Change Process
- DIS Part. Process
- System Architecture

0211-1833

* Quarterly review incorporated in another briefing by STRICOM

D-Draft V-Version F-Final

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TIMELINE FOR STANDARDS DEVELOPMENT WORK

Legend:
△ START ▲ STARTED
▽ STOP ▼ STOPPED

TASKS	MAC	1992 JULY	2 AUG	3 SEPT	4 OCT	5 NOV	6 DEC	7 JAN	8 FEB	1993 9 MAR	10 APR	11 MAY	12 JUNE
TASK 1: Research & Analysis to Accelerate STD													
Subtask 1a: Communication Architecture (CA)													
Preliminary Draft	Year 1												
CA Draft STD	▲						▲						
Final CA Draft STD							▼					▼	
Subtask 1b: Performance Measures (PM)													
Preliminary Draft	Year 1												
PM Draft STD	▲						▲						
Final PM Draft STD							▼					▼	
Subtask 1c: Environment Correlation (EC)													
Preliminary Draft	△						▽					▽	
EC Draft STD													
Subtask 1d: Protocol Data Units (PDU)													
Final Draft Version 1.0	Year 1												
Version 2.0 - Draft 1	Year 1												
Version 2.0 - Draft 2	Year 1	▲						▲					
Version 2.0 - Final Draft								▼				▽	
TASK 2: Develop Environment Correlation Measures													
Subtask 2a: Group Warfighting Tasks	Year 1			▲									
Subtask 2b: Develop Candidate Corr. Measures													
LOS Intervisibility *	▲							▲					
Target/Background Contrast Ratio									▲				
Indirect Fire and Elec. Comm.	Year 1												
Image Correlation*	Deleted												
CIG Performance Characteristics	Year 1												
Subtask 2c: Determine Req'd Correlation*	△ ‑ ‑ ‑ △				△				▽			▽

0211-1831.3   * See Detail Plan

TIMELINE FOR STANDARDS DEVELOPMENT WORK (Cont'd)

START △	STARTED ▲
STOP ▽	STOPPED ▼

TASKS	MAC	1992 JULY 1	AUG 2	SEPT 3	OCT 4	NOV 5	DEC 6	1993 JAN 7	FEB 8	MAR 9	APR 10	MAY 11	JUNE 12
TASK 3: Develop Operator Perf. Meas.													
Subtask 3a: Literature Search	Year 1												
Subtask 3b: PoP Dead Reckoning*	Year 3												
TASK 4: Develop STD Documents & Dev. MIL-STD													
Subtask 4a: Facilitate STDs Process													
Host Workshops				▲					▲				
Produce Minutes				▲	▼				▼	▼			
Monthly Teleconferences		▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
Subtask 4b: Produce STD & Rationale Docs													
PDU Stds & Rat. V 2.0				▲			▲			▽			▽
CA Stds & Rat V 1.0							▲▲						▽
PM & EC Stds & Rat V 1.0							▲						▽
Subtask 4c: Prepare User Guidance Docs													
STD Change Prelim. Draft (Guid. Doc.)	Year 1						▲						
STD Change First Draft	Year 1												
STD Change FINAL													
DIS Participation Prelim. Draft (Concept Doc.)	Year 1						▲						
DIS Participation Drafts & Final													
System Arch. Drafts & Final		▲											
Subtask 4d: Coordinate w/STD Bodies		▲											

0211-1831.1a

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DETAIL PLAN
TIMELINE FOR STANDARDS DEVELOPMENT WORK

Legend:
△ START ▽ STOP ◆ STARTED ▼ STOPPED

TASKS	MAC	1992						1993					
		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
		1	2	3	4	5	6	7	8	9	10	11	12
Subtask 2b:													
LOS Intervisibility													
Create Database	Year 1												
Create Grid	Year 1												
Develop/Test Correlation Method	Year 1												
Requirements	Year 1												
Functional Description	Year 1 (Combined to One Document)												
Detail Design	Year 1												
Implementation	Year 1												
Test		◆	▼										
Demo							▼						
Analyze Results								△	△				
Subtask 3b: PoP Dead Reckoning													
Collect Positional Data	Year 1												
Choose DR Models	Year 1												
Develop Tool/Generate Data													
Requirements	Year 1												
Functional Description	Year 1												

0211-1832.2

13

DETAIL PLAN
TIMELINE FOR STANDARDS DEVELOPMENT WORK (Cont'd)

Legend:
△ START ▷ STOP ▲ STARTED ▶ STOPPED

TASKS	MAC	1992						1993					
		JULY 1	AUG 2	SEPT 3	OCT 4	NOV 5	DEC 6	JAN 7	FEB 8	MAR 9	APR 10	MAY 11	JUNE 12
Detail Design	Year 1												
Implementation	Year 3												
Test	Year 3												
Demo	Year 3												
Determine Computational Costs	Year 3												
Compare DR Models & Draw Conclusions	Year 3												
Subtask 2C: Det. Required Correl.													
LOS Intervisibility													
- Develop Research Plan			△			▲							
-Conduct Experiments				△		▲		▷					
-Analyze Data					△		▷		△ ▷				
-Document Results											▷		
Target/Background Contrast Ratio													
- Develop Research Plan				△		▲				△ ▷			
-Conduct Experiments						△			△	▷	△ ▶		
-Analyse Data								▷					
-Document Results								△					▷

0211-1832.1a

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ATTACHMENT B - STEERING COMMITTEE AGENDA AND NOTES

STEERING COMMITTEE TELECONFERENCE

NOTES & MINUTES

7/22/93

ATTENDANCE: Simone Youngblood, John Lethert, Bruce McDonald, Margaret Loper, Richard Schaffer, Sam Knight, Dale Pace, Mike Robkin, Chris Bouwens, Duncan Miller, Steve Seidensticker, Lewis Hembree, Ron Hofer, Stan Goodman, John Eisenhardt, Brett Butler

FUTURE TELECONFERENCES:

Working Group Chairs: August 9 @ 11:00EST
                               904-488-0889

Steering Committee: August 23 @ 11:00EST
                               904-488-0882

Steering Committee: September 2 @ 11:00EST
                               904-488-0882

Architecture Team: August 12 @ 11:00EST
                               904-488-0898

ACTION ITEMS:

ACTION ITEM: (Margaret)

1.   What are valid names for this standard?
2.   Get officially named as IEEE representative and get PAR started for CADIS.
3.   Can trail-use standard be copied or is it owned by IEEE?

ACTION ITEMS:

IDA - Provide support for DIS SC Architecture Tiger Team.
Hofer - Invite DMSO Architecture Committee representative to attend teleconferences.
IST - Get 3 copies of Simulator Network Handbook to Dale Pace prior to Architecture TC.

DISCUSSIONS:

Chris Bouwens says CADIS Document is ready for approval by SC.
Two questions/problems:

    1. Is CADIS a standards or a requirements document?
    - Postulate that CADIS is something other than a standard but more than an implementation document.

    2. Not forward reaching enough to look at new technologies (3-5 years).
    - There is concern that CADIS is too simple to handle large scale exercises
    - Shift emphasis of CAS from standards (i.e., CADIS) to forward looking for new technologies?

For procurements, does the Government require "compliance with" or "consistent with" CADIS?

What are the key nuggets we are complying with?
    1. services provided (best effort multicast, unicast, broadcast)
    2. performance
    3. protocols

Objective is to get CADIS published with a date and version number for use in DIS community. We should start the IEEE balloting process for CADIS to see what comments are received and what it should be called. It should probably be an IEEE trial-use standard.

ACTION ITEM: (Margaret)
    1. What are valid names for this standard?
    2. Get officially named as IEEE representative and get PAR started for CADIS.
    3. Can trail-use standard be copied or is it owned by IEEE?

    Chair: Margaret (or SC Chair)
    Vice-Chair: Chris (or individual WG Chair)
    Secretary: IST rep or CAS rep (Margaret will work off-line with Chris)

SYSTEM ARCHITECTURE

Is the information in Vision and Operational Concepts documents appropriate for an Architecture document? We need a key document which identifies the top level architectural principles, then need decisions on technical reference model. Architecture vs. Standard: 3 Tiers

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1. Architecture is reference document
2. Standards, more formally established documents which describe how to accomplish architecture goals
3. Other documents, such as guidance and interface specifications.

We can use the "Object Management Group" (consortium of suppliers) as a reference. There is an article on them in the C++ Report (July-August issue). OMG has generated an architecture guide as their reference document.

Form "Architecture Tiger Team" to create an outline and then look at other documents (Simulator Networking Handbook, Strawman Architecture, Operational Concepts, etc.) and groups (OMG). Architecture should be 20-30 pages max and should have no design issues. ATT is composed of: Ron (chair), Dale, Brett, John L., Sam, Duncan, and Margaret; IDA to support. Invite DMSO Architecture Committee to attend teleconferences.

ACTION ITEMS:
IDA - Provide support for DIS SC Architecture Tiger Team.
Hofer - Invite DMSO Architecture Committee representative to attend teleconferences.
IST - Get 3 copies of Simulator Network Handbook to Dale Pace prior to Architecture TC.

1. PARTICIPANTS
   CDR. Misch
   John Rankin
   Karen Williams
   Richard Schaeffer
   John Lethert
   Chris Bouwens
   Duncan Miller
   Dave Pratt
   Dale Pace
   Mark McAuliffe
   Bob Sottilaire
   Danette Haworth
   Brett Butler
   Brian Goldiez
   Margaret Loper
   Annette Ratzenberger
   Joe Brann
   Sam Knight
   Bruce McDonald

2. IMPLEMENTERS WORKSHOP:
   Nothing is firm yet with respect to the actual presentations or the schedule of presentations. Chris will solicit more information from presenters and will restrict discussions to DIS related areas. Chris Bouwens had sent out e-mail on possible presenters.

3. Work out time of day for each Plenary Speaker. Danette will schedule this within one week.

4. Dr. Mike Moshell of IST has requested a SIG for use of DIS in education. No decision was reached on whether his request will be granted.

5. Fiber Channel Working Group of ANSI has requested space to discuss real time applications and DIS. They will be accomodated.

6. Advanced Program is in the mail.

7. Mailing list has been separated into an Active and Inactive list. Conditions for Active will be those who responded to survey or who come to the September workshop. If an individual does not come to the workshop for one year, we will continue to mail fliers but will not send minutes or standards any longer.

8. With respect to the tutorial, Bruce McDonald will introduce speakers and each speaker will talk about the goals of their group and bring all concerned up to speed on their standard. The intent is to off load time spent bringing people up to speed in a meeting which is separate from the working group meeting. Suggestion was made to limit scope of the tutorial to general issues, what has been done and what is scheduled to be done.

   Decision was made to limit tutorial to 3 hours without a break. It will start at 5 pm. The tutorial will be kept at a general level. Provide a better description of activities during the working group session.

9. The matter of complimentary registrations came up. There was a suggestion that registration fees be forgiven for working group members and members of the steering committee. IST will review with STRICOM. It is also not clear who is a member of the steering committee.

10. SC will meet at lunch each day starting on Monday of the workshop. Meeting will start at 11:00 on Monday. Only one person from VV&A subgroup will attend. Breakfast meetings will be an opportunity to meet between working group chairs to meet.

11. Steering Committee will meet from 3-5 pm on Friday to present the final wrap-up of the meeting. SC meeting Wednesday evening will be optional and be oriented to architecture tiger team meeting (meeting will convene at 7 pm).

12. IST's new address is:
    Institute for Simulation and Training
    3280 Progress Drive
    Orlando, FL 32826

13. There was some discussion of the SC Charter. Comments received by Goldiez fall into three basic categories:
    a.) problems with the Background Section,
    b.) confusion over areas relating to Promulgation and Configuration Management
    c.) general grammatical comments.

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The SC Charter will be discussed further at the DIS workshop. Comments can still continue to be shared among SC participants and Goldiez will continue to collect and categorize comments.

ATTACHMENT D - TRIP REPORTS and MINUTES FROM INTERIM MEETINGS

TRIP REPORT

Person on travel: Danette Haworth
Place visited: Marriott Orlando International, Orlando
Date: July 28, 1993
Purpose of visit: To attend one day seminar entitled
                    "How to Supervise Better"

The instructor who lead this one day seminar was well rehearsed and very polished. Although he started out late, he got right into the information and kept things moving along quickly. He offered many colorful personal examples to emphasize the text he went over in the workbooks we received.

The workshop seemed to be divided into two themes: in the morning he dealt with legal implications, and after lunch he dealt with psychological aspects.

The thing he emphasized regarding legal implications was how not to get sued. He said that a typical disciplining procedure progresses from oral warning to written warning to termination. Apparently, these warnings are not enough to protect the company or the supervisor from a lawsuit. The supervisor must provide specific steps the employee can follow for improvement; the steps must include a timeframe. For example, "You have a bad attitude. I want you to be nicer for two weeks"--this statement is not specific enough. You'd have to say, "For the next two weeks, I don't want to hear you complain about anything."

After lunch, he talked about relating to your employees, how to recognize certain personality types. We had to break down into small groups and work out some scenarios.

Working Group Chair Teleconference
August 9, 1993

Host: Amy Vanzant Hodge

Attendees: Danette Haworth, John Rankin, Carol Paris, Russell Nelson, Vince Amico, Bruce McDonald, Annette Ratzenberger, Joe Brann, Bob Sottilare, Michael Rothrock, Richard Schaffer, Dale Pace, Chris Bouwens, Sam Knight, Mark McAuliffe, Simone Youngblood, David Gobuty, Steve Seidensticker, Dave Powell, and Laura Malter

Items Discussed:

IFF--There's been some discussion on this; a PDU was proposed. The Emissions Subgroup will keep working on this. Sam thinks this PDU will probably appear in Version 3.0.

There was some talk about using the TDL PDU as a response IFF.

We decided that a Version 2.0.4 would not be released prior to the workshop. Those changes that have been received for the PDU standard will be sent out as suggested changes (rather than changed pages), and will be decided upon at the workshop.

Changes to the Enumeration document will be forwarded to JEIO. Chien Huo will bring the document to the workshop.

Bruce McDonald wants to use a list of vehicles for I/ITSEC participants in order to keep them updated while JEIO updates the Enumeration document.

Room assignments and scheduled working session were confirmed. There are still a few joint meetings that must have rooms and times established.

- Open Action Item for IST (D. Shen) to propose a "deactivate bit" in the Entity State PDU. IST's recommendation was bit 23 in the Appearance field. This is to be voted on at the September workshop.

CAS TELECONFERENCE NOTES

AUGUST 3, 1993

Participants:

Josh Seeger
Steve Seidensticker
Dale Gussey
Amy Vanzant-Hodge
Chris Bouwens
Tom Gehl
Russ Nelson

MEETING NOTES

MISC

Tom Gehl announced that he has an internet addressed. It is: tlgehl@manvm2.vnet.ibm.com

DISCUSSION OF STANDARD

Chris Bouwens reviewed the Steering Committee discussion of the CADIS document at the 28-29 meeting. She also discussed the SC discussion during its teleconference in July. Essentially, the SC determined that the standard would be appropriate as a Trial-Use Standard. Margaret Loper was to pursue that avenue.

ACTION: Chris is to check on the IEEE process and discuss with Margaret Loper. Chris will then report during presentation at the workshop in Sept.

GUIDANCE DOCUMENT

Purpose of the Guidance Document: The group discussed the purpose of the CAS guidance document as being a document with guidance intended for implementers of DIS. Whether "Issues" should be included was debated. One suggestion was to include it as an Appendix to the Guidance Document. Another was that the issues could be determined from the meeting minutes and, therefore did not need additional publication. The consensus of the group seemed to be with the first suggestion. It was noted that the scope statement in the current guidance document was very good and should remain. Future issues to be addressed include multicast and group assignments.

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Another suggestion concerning the Guidance Document is that the document should reference other related documents such as the IST document "Simulator Networking." The purpose of the "Simulator Networking" document appears to be to provide more detailed information where the CADIS guidance document could provide guidance at a higher level for CADIS implementers. Other possible references included a document produced by BBN for their work with Loral (Application Layer Algorithms....??) and a BBN paper addressing networking issues relative to scalability. During a STOW peer review scheduled for 3rd week of August, Josh to make presentation on scalability. He believed he could contribute that information to the group.

ACTION: Josh Seeger to look into getting copies of the above BBN documents.

It was recommended that the guidance document also include examples of specific implementations such as those included in the Implementer's Workshop, I/ITSEC, AUSA, etc.

The question was asked: What should go into the Guidance Document? One recommendation was to include the following:

%   Inputs from Scalability paper/presentation
%   BBN/Loral work
%   Discussion of major technical issues
          Large number of entities
          Latency vs. complex network topologies
%   Description of Current Network support
          DSI support for smaller exercises
          Traffic characterization from exercise logs & related papers
               (Paper by Doris & Seidensticker)

It was recommended that the group review the Simulator Networking book by IST to determine what type of guidance it provides for implementers and the issues it addresses.

Performance was another topic recommended for the Guidance document. It was recommended that more details be provided than is currently present. There was also the suggestion that Warbreaker and ULCHI FOCUS LENS could offer some good inputs concerning network performance. Presentations from these groups would be useful.

Another recommended topic for the guidance document was the DSI Network. Past experience could help developers in their own network development. Current section needs some changes.

TIME SYNCHRONIZATION

The group then discussed time synchronization. It was commented that generally, time synchronization was an application layer responsibility and distributed like application layer hosts distribute other information. NTP runs in a host. A number of topologies might be allowed. One would be a hierarchy of time servers for the network. One master server would be in charge while each site has its own time server. Each host at the site will need to get its
time from the server.

There was a question about what would happen if a correction in time was made, perhaps making the most recent information appear older than previously received information. It was determined that other subgroups would have to determine what was tolerable and what would happen in this case. More specific time synchronization requirements are needed from
the various subgroups.

NETWORK MANAGEMENT

There was a question as to whether time synchronization should be handled by Network Management. So far, the CAS view on network management has been that there are a number of network management protocols that exist off the shelf and that CAS should not standardize on network management protocols. There was some comment that CAS should choose to standardize on network management requirements for DIS and what types of net management functions are needed. The Simulation Management group does not address Net management. Simulation Management (SIMAN) does handle establishing site, application and entity addresses and perhaps key distribution (security issue). Exercise Management needs to also be
established.

At I/ITSEC this year, SNMP will be used to provide network management.

Concerns include Bandwidth Allocation, Multicast, and congestion management.

It was determined that the CAS group needed to review the Guidance Document in detail and get comments back to the group during the workshop. This would save the trouble of a line-by-line review of the document. A smaller tiger team like group could meet during the workshop to continue review of the document.

ACTION: Russ Nelson to get back to Chris concerning the mailing out of the guidance document to CAS members for review. (THIS HAS BEEN RESOLVED. GUIDANCE DOCUMENT WILL BE MAILED TO CAS MEMBERS ALONG WITH STANDARD AND RATIONALE DOCUMENT).

Next meeting will take place at the workshop.